ATTACHMENT A
REMARKS

Claims 1-5, 12-17 and 23-25 have been rejected under 35 USC 103(a) as being unpatentable over Phillips in view of Clendenin and McCusker. This rejection is respectfully traversed although claim 1 has been amended to include the subject matter of allowable claim 6 in order to expedite the prosecution. Thus, the most relevant rejection is that of independent claim 15.

Claim 15 is directed to a video sensor system comprising a video guidance sensor which is recited in the introductory portion of claim 15. The claim also sets forth a number of specific improvements including integration of a time of flight measuring subsection into the video guidance system, and alternate operation of the system in a range measuring mode and a video guidance sensor mode. Other features of claim 15 are discussed below. It is respectfully submitted that claim 15 patentably defines over the cited references.

Turning to the references, Phillips uses a complex optical modulator and a heterodyne detector to provide "matched filter cross-correlation of light pulse waveforms that have multiple, simultaneous frequency components with phase variation and incommensurate spectral frequency spacing between frequency components" (see the Abstract of the Disclosure). The Phillips patent states that the primary function is to "generate and emit pulses of laser light in a beam 80 directed towards an object or target T and then to receive reflections 84 of emitted light back from the object or target T in a form that can be compared to the optical characteristics of the emitted beam 80 for deriving target range (distance) information or target velocity information, or both range and velocity information simultaneously" (see column 5, lines 55-63). The Phillips patent further provides that "[f]or imaging the object or target T, a controller processor 210 can be used to cause the telescope and scanner apparatus 60 to scan the outgoing beam 80 over the area of the target T to obtain multiple range data points, for example, in a raster pattern is conventional and well-known in radar and ladar imaging."

Considering in more detail the distinctions between the present invention and the prior art, as indicated above and recited in claim 15, the present invention concerns a video guidance sensor system including a video guidance sensor and an integrated

range measuring capability. First, it is respectfully submitted that the references do not disclose a time of flight subsystem integrated into a video guidance system wherein the "system is alternately operated in a range measuring mode and a video guidance sensor mode." In the Response to Arguments section, the Examiner makes the same argument discussed below with respect to Phillips teaching "the time of flight is integrated into the video guidance system (see col. 7 lines 6-65)" and further argues that "Phillips teaches the data can be (video mode) displayed on a display device (see col. 7 lies 63-64)." Although lines 63 and 64 of Phillips do provide for displaying the "useful information" on a display device, it is respectfully submitted that this has nothing to do with alternately operating the system in a range measuring mode and a video guidance sensing mode. The display in Phillips can obviously be provided at any time, and there is simply no teaching whatsoever with respect to any kind of alternate operation in a range measuring mode and a video guidance sensor mode.

Further, it is respectfully submitted that Phillips does not disclose a video guidance sensor. In the "Response to Arguments" section, it is contended that "Phillips does teach a video guidance sensor" and reference is made to column 7, lines 60-65. These lines merely state that a "data processor 200 processes this data into useful information about the target t, such as range, velocity, map images, and the like, which data can be stored in a data display device 204 for later retrieval, or displayed on a display device, such as a video monitor, printer, or the like." It is respectfully submitted that a "video guidance sensor" is a term of art and as is evident from the use of the word "guidance," is concerned with the "concept of using captured and processed images to determine the relative positions and attitudes of a video guidance sensor and a target" for use, for example, in docking of a spacecraft (see paragraph [0003] of the specification). Further, it appears that the Examiner is reading the same components of the Phillips system as the video guidance sensor and the time of flight range measuring subsystem as claimed in claim 15.

Claim 15 also recites that the range measuring sub-system comprises first and second matched photodetectors receiving said output light and said return light, respectively, and for producing corresponding output signals, and a digitizer, including at least one programmable gain amplifier and at least one analog to digital converter, for

digitizing said output signals and for producing corresponding outputs. (It is noted that claim 15 has been amended to recite "at least on programmable gain amplifier" and "at least one analog to digital converter" in order to eliminate a possible ambiguity in the recitation of these elements.) It is not seen that the Phillips patent discloses matched photodetectors even accepting the argument made by the Examiner with respect to detectors 102 and 104. Moreover, it is respectfully submitted that the digitizer claimed defines over digitizer 206 of Phillips with respect to the recitation of the "at least one programmable gain amplifier."

Turning to the secondary references, these references clearly do not make up the basic deficiencies of the Phillips patent as a reference against claim 15 and thus it is respectfully submitted that claim 15 is patentable over the proposed combination of references even assuming for the sake of argument that the combination is a proper one.

Allowance of the application in its present form is respectfully solicited.

END REMARKS